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Development of the My Positive Health dialogue tool for children: a qualitative study on children's views of health

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ABSTRACT

Background Children's views of health were explored in order to develop a health dialogue tool for children.

Methods A qualitative research design was used as part of a codesign process. Based on semi-structured interviews with both healthy children and children with a chronic condition (aged 8–18). Two approaches were applied. The first was an open exploration of children's views on health, which was then thematically analysed. Subsequently, a framework was used, based on the six-dimensional My Positive Health (MPH) dialogue tool for adults, to guide the second part of the interviews, focusing on reviewing the children's view on health within the context of the framework. For the final draft of the dialogue tool, a framework analysis was conducted and then validated by members of the 'children's council' of the Wilhelmina Children's Hospital.

Results We interviewed 65 children, 45 of whom had a chronic condition and 20 were healthy. The children described a broad concept of health with the central themes of 'feeling good about yourself' and 'being able to participate'. Based on the subsequent framework analysis, the wording of two of the six dimensions of the MPH dialogue tool was adjusted and the related aspects were adapted for better alignment with the children's concept of health. After these modifications, the tool fully matched the children's concept of health.

Conclusion The MPH dialogue tool for children was developed for children with and without a chronic condition, to help them open up about what they consider important for their health and well-being, and to improve directorship over decisions and actions that would affect their health. The MPH dialogue tool aims to support healthcare professionals in providing the type of care and treatment that is in line with the needs of their young patients/clients.

What is known about the subject?

- ► In recent decades, more paediatric patients with a chronic condition have reached adulthood, thanks to improved diagnosis and treatment of life-limiting diseases.
- ► It is important to provide care and treatment that is in line with the specific needs of these young patients, to stimulate their participation in society and their ability to self-manage.
- ► Interventions should be more in line with and aimed at understanding children's views on health are therefore essential to improve their health and self-management.

What this study adds?

- ► Children describe a broad concept of health, according to the central themes 'feeling good about yourself' and 'being able to participate'.
- ► Substantiation for developing a practical tool to help children gain insight into their health values.
- ► A dialogue tool to enable children to share these insights with healthcare professionals to improve directorship over their care and treatment and to ensure these are more in line with their own needs.

INTRODUCTION

In recent years, the view on health has changed from a biomedical model focusing on health and illness, to a concept that also considers social and psychological aspects and the individual's personal perspective on health. Within this trend, Huber *et al* propose a new concept that also takes people's capacity to adapt and self-manage into account.[1] Positive Health brings this new concept of health into practice. It focuses on fulfilment in life, with a real sense of well-being even in the presence of a chronic condition.[2] To incorporate this concept into healthcare, the My Positive Health (MPH) dialogue tool was developed. This tool was created to support people in expressing their strengths and addressing their health-related needs, with the help of their healthcare professionals (HCP).[2] The MPH dialogue tool (ie, the version for adults) consists of six dimensions that represent the aspects associated with health (online supplemental appendix A).

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As chronic conditions are becoming more prevalent in children, it is important for them to master the tasks and skills involved in self-management, and equally important for HCP's to develop interventions to support them in this process.[3] In the Netherlands, over 1.3 million children and adolescents (0–25 years) are living with chronic conditions, such as diabetes, asthma, autism and depression.[4] Although there are interventions that focus on improving both physical and mental health, only few of those focus on starting a dialogue with children about relevant health themes, but rather focus on a specific group of patients, such as adolescents with chronic conditions in transitional care or children with life-limiting conditions.[5 6] An intervention in the form of a dialogue tool may help children to share what is most important to them when it comes to their health and well-being. Discussing this with their HCP may help to determine aspects of their health that they wish to change, which may empower them to achieve more control over any decisions and actions that affect their health. That being said, it is important to also acknowledge that people's beliefs about health and how they perceive it may change over the course of their lives.[7] Previous research shows that children have a broad perception of health, including daily functioning, lifestyle and being able to participate.[8–11] Interventions aimed at understanding and aligning with their views on health are essential to improve their health and self-management capabilities. For this reason, we developed an age-appropriate MPH dialogue tool that matches the views of both healthy children and children with a chronic condition, to be used in various settings.

MATERIALS AND METHODS

Study design

A codesign process was used to develop the MPH dialogue tool for children. We conducted an exploratory qualitative study by, initially, using an iterative approach, in which data collection, analysis and reflection were alternated until meaning saturation was reached.[12] Subsequently, semistructured interviews were thematically analysed, followed by a framework analysis based on the adult version of the MPH dialogue tool.

Participants

A purposive sample of healthy children and children with a chronic condition (8–18 years old) was constructed. Children who were not fluent in Dutch were excluded, as well as those with a severe intellectual disability or who were visually handicapped. To achieve maximum variation, the participants were recruited from several outpatient clinics from the following disease categories: muscular and neuromuscular disease, congenital heart disease, inflammatory bowel disease, functional abdominal pain and autism spectrum disorder. Healthy participants were recruited through a regional Youth and Family Centre during regular check-up visits. All eligible participants received a letter containing information about the study and were invited 2 weeks later to participate. The children and their parents all provided written informed consent on participation.

Table 1 Overview of the six dimensions

Health dimensions (adults) (including Dutch translation)	Child dimensions used (including Dutch translation)
Bodily functions Lichaamsfuncties	Your body Mijn lijf/mijn lichaam
Mental well-being Mentaal welbevinden	Your feelings and thoughts Mijn gevoel en mijn denken
Meaningfulness Zingeving	Who am I and what do I want? Wie ben ik en wat wil ik?
Quality of life Kwaliteit van leven	Your happiness and enjoyment/ feeling good about yourself Mijn geluk en mijn genieten/ Lekker in je vel
Participation Meedoen	Participation Meedoen
Daily functioning Dagelijks functioneren	What can I do and what do I do/ daily life Wat kan ik en wat doe ik?/ Dagelijks leven

The multidisciplinary research team that rephrased the dimensions represented the following disciplines: paediatrics, psychology, qualitative research, epidemiology, Institute of Positive Health, Youth Health Care Department, and the Dutch Child and Hospital Foundation).

Data collection and processing

Prior to the interviews, demographic characteristics were collected from all participants through a brief questionnaire. The interviews consisted of two parts.

The first part involved following a semistructured interview guide and the use of a variety of health-related pictures that facilitated an open dialogue (online supplemental appendix B). During this dialogue, the researchers asked open-ended questions ('What does health mean to you?') and encouraged the respondents to motivate their responses to a number of visualised topics (eg, by showing a picture of the King of the Netherlands and asking: 'Do you think he is healthy?' and 'why/why not?'). The interview guide was developed by a multidisciplinary research team. In the second part of the interviews, participants were invited to reflect on the six dimensions of the MPH dialogue tool and corresponding aspects, in alignment with their own views on health (online supplemental appendix B). This part consisted of more focused questions related to the dimensions and aspects that were derived from the adult MPH dialogue tool and subsequently rephrased to make them more suitable for children (table 1). The interviewer would present the six dimensions and corresponding aspects, which were visualised on a number of cards, and

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subsequently ask the following questions: 'Do you think this dimension is an element of health?' and 'Could you explain your answer?', 'What are the aspects that belong to this dimension?' and 'Are there any other aspects than the ones we showed you?'

The interviews were conducted by three medical students/junior researchers (EEBvdS, ENG and SEIvdL), who were trained in qualitative interviewing techniques by a senior qualitative researcher (MCK). The multidisciplinary research team was involved in the process from data collection to description of the results. Data were collected over the February–June 2017 period. The interviews were held either at the hospital or at home and lasted between 20 and 67 min each. Parents were not present during the interviews. Interviews were audio-recorded and any identifiable information was anonymised during transcription.

Data analysis: part 1

First, two junior researchers (ENG and SEIvdL) each read all the transcripts to familiarise themselves with the data and identify preliminary codes relevant to the research questions. They discussed their initial findings on a weekly basis with three senior researchers (EMvdP, SLN and MCK), and jointly determined the content for the next set of interviews and developed the preliminary coding tree. During an interim evaluation with the entire multidisciplinary research team, the findings were discussed and checked against transcripts. Coding discrepancies were resolved, consensus about the identified themes and sub-themes was achieved, and the coding tree was adapted accordingly. Coding and meaning saturation were achieved when no more new topics, nuances or insights appeared from the interviews.[12] After completing the coding process, the structure and categorisation of themes and sub-themes was finalised and validated by the entire multidisciplinary research team. Coding was supported by NVivo V.11 Pro (QSR International, 2015).

Data analysis: part 2

A third junior researcher (EEBvdS) used data from the second part of the interviews for a 9-step process to develop the MPH dialogue tool for children, as shown in table 2. The interviews were analysed in two age categories: younger children (8–11 years old) and older children (12–18 years old), as it became evident that the younger children had difficulty in understanding all health-related aspects. This nine-step process was performed in close collaboration with the full multidisciplinary research team and the dialogue tool was validated by members of the 'children's council' of the Wilhelmina Children's Hospital (WCH), resulting in the final version of the MPH dialogue tool for children.

RESULTS

A total of 65 children participated, 45 of whom with various chronic conditions and 20 who were healthy (table 3).

Children's view on health (first part of the interview)

Concept of health: central themes

The vast majority of the participating children considered health to be something they experience, with a focus on 'feeling healthy' and 'feeling good about yourself' (box 1,

Table 2 The nine-step process to develop the MPH dialogue tool for children

Step	Who is involved	Content
Step 1	Participants—during second part of the interview	Do children think the dimensions belong to their concept of health (yes/no/don't know)?
Step 2	Participants—during second part of the interview	What reasons do children give for a dimension belonging (or not belonging) to their concept of health?
Step 3	Participants—during second part of the interview	Which aspects belong to each dimension?
Step 4	Participants—during second part of the interview	Which of the themes and sub-themes that were mentioned in the open part of the interview* should perhaps be added to one of the dimensions?
Step 5	Researcher	Drawing conclusions based on steps 1–4 and designing a preliminary version of the tool
Step 6	Multidisciplinary research team	Discussion of the conclusions (step 5) by the multidisciplinary research team
Step 7	Multidisciplinary research team	Defining the dimensions and corresponding aspects
Step 8	Children's council	Presenting the health dimensions and aspects to the children's council of the Wilhelmina Children's Hospital†
Step 9	Multidisciplinary research team	Establishing the Final version of the My Positive Health dialogue tool for children and publication for use.

*These themes were derived from the analysis of the first part (ie, open dialogue) of the interviews.
†This council consists of 10 patients aged 8 to 18, who advise the hospital's management team on topics related to healthcare improvement.

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Table 3 Participant characteristics

Variable	Category	Healthy children N	Healthy children %	Children with chronic conditions N	Children with chronic conditions %
		20	30.8	45	69.2
Gender	Female	12	60	21	46.7
	Male	8	40	24	53.3
Age (years)	8–11	7	35	19	42.2
	12–15	11	55	18	40
	16–18	2	10	8	17.8
Condition	Congenital heart disease			9	13.8
	Neuromuscular disease			7	10.8
	Inflammatory bowel disease			10	15.4
	Functional abdominal pain			10	15.4
	Autism spectrum disorder			9	13.8
	No disease/condition (healthy)			20	30.8

quote 1). Some children felt that 'feeling good about yourself' covered the whole concept of health, including physical and emotional well-being, having friends and not being bullied. Some children added that a feeling of happiness was essential for feeling good. One of the participants stated: 'The happier you are, the healthier you are.'

Most children related 'feeling good' directly to being physically fit, by which they meant being strong and in good physical shape. They frequently mentioned that being fit enabled them to do the things they want to do and to participate in activities. This also included aspects of daily life, such as attending school and meeting friends. 'Being able to participate' was therefore identified as a second central theme (box 1, quotes 2–5), as children believed that being able to participate contributes to feeling good. Although some children initially mentioned 'not being sick' as the essence of health (box 1, quote 5), over the course of their interview, all children discussed health from a broader perspective, connecting it to 'feeling good about yourself'.

These two central themes and sub-themes (ie, topics that contribute to or determine health) are presented in figure 1.

Box 1 Quotes on health, participation and activities

Q1 'To me, health is not about having a disease, but more whether I feel good. Even when I'm sick, I can feel fine. For example, if I would suffer from cancer, but if I am feeling good, I don't have any complaints, then I don't feel sick. Sick is when you do not feel good.' Healthy girl, 12–15 years age group.

Q2 'If you feel well then you can go to school and if, for example, you are very tired or if you feel pain in your stomach or you do not feel well, then you have to stay at home.'

Boy with congenital heart disease, 8–11 year age group.

Q3 'Health means that the things you want to do, that you can do all of that, and that you're not limited by your health.'

Healthy girl, 12–15 year age group.

Q4 'So well, health is… well… being able to do what most children are able to do.'

Boy with muscular disease, 12–15 years age group.

Q5 'I think when you have a certain disease, you are physically less healthy than others who don't have any disease.'

Boy with inflammatory bowel disease, 12–15 years age group.

Other themes related to health

Seven subthemes were identified that are related to health, according to the children. (1) Children frequently mentioned behavioural habits that may influence health. These were categorised as: 'lifestyle'. Children noted that lifestyle may directly influence health, explaining that healthy habits, such as sports, good nutrition or getting enough sleep, may give them more energy, can prevent physical complaints and thus make them feel more fit and healthy. Children also connected these habits to the key concept of 'feeling good about yourself', as an unhealthy lifestyle may cause negative feelings that, in turn, may lead to not feeling good. (2) Another subtheme was related to physical complaints, as children reasoned that being healthy means the absence of pain, fever, fatigue or discomfort. (3) In addition, children mentioned that appearance or 'how you look' sometimes indicates whether someone is healthy and was therefore considered to be part of health. (4) Children also described having friends and family as being important, because it makes them happy, but also to express their feelings and thoughts. Several children perceived sharing their feelings and thoughts with family and friends as helpful to prevent stress, negative thoughts, depression and loneliness. (5) Children reasoned that a positive attitude attributes to having positive feelings and thoughts which contribute to feeling good. In addition, positive thinking motivates and stimulates them to do what they want to do and, therefore, makes them feel happier and healthier. (6) To children 'being yourself' means that they can show others who they are and what they stand for. They considered this important for gaining self-confidence and being more self-confident makes them feel good. Children also considered this the other way around: not

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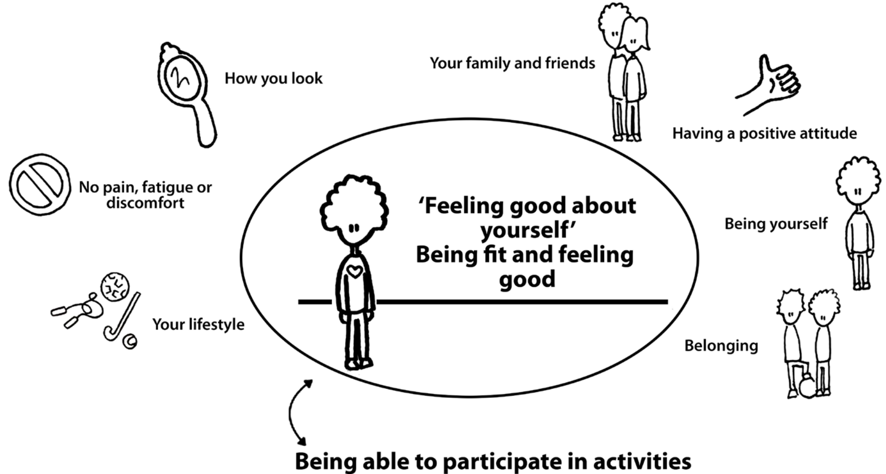

Figure 1 Children's view on health; results from the first part of the interview.

being themselves may indicate that they are actually not quite healthy. (7) Finally, having a sense of belonging and feeling accepted also made them feel good, whereas not belonging or being rejected or excluded may lead to feelings of fear or loneliness and to not feeling good. Table 4 shows quotes that illustrate these subthemes.

Development of the MPH dialogue tool for children

As described above, reviewing the children's view on health within context of the framework was a nine-step process (table 2), and more details of this process can be found in online supplemental appendix C. During the first steps of the analysis, the researcher discussed the children's interpretation of the health-related dimensions and aspects, as initially proposed by the multidisciplinary team. The researcher subsequently reviewed the children's discussion of the six proposed dimensions and aspects and whether these were connected to their concept of health and why (steps 1–2). For four of the proposed dimensions (My body, My feelings and thoughts, Feeling good about yourself and Participation), the majority of children felt that these connected to their concept of health. However, some children had difficulty understanding the two remaining dimensions of 'Who am I and what do I want' and 'What can I do and what do I do?'. Whenever this was the case, the researcher would clarify the meaning by presenting and explaining the dimension's corresponding aspects. But a discrepancy remained between the original meaning of these two dimensions and the children's interpretation. It appeared that children were mainly confused by the terminology, as most of the aspects of these two dimensions were frequently and spontaneously mentioned by the children, in the first part of the interviews. So, they did consider the aspects of these dimensions to be part of their concept of health. Based on these findings, the researcher discussed rephrasing of these two dimensions with the multidisciplinary research team. To prevent loss of initial meaning, several terminology modifications were suggested (steps 3–5), as presented in table 5.

After discussing all results and suggested modifications for dimensions and/or aspects with the multidisciplinary research team (step 6), all dimensions were defined/redefined (step 7). Each of the dimensions then consisted of six to eight aspects, as shown in table 6. The aspects marked with an asterisk are more applicable to the older children (≥12 years), based on the results of step 3 of the analysis. For practical use, all 39 aspects were converted to questions that will help children reflect on their health. Using the tool is a two-step process; after answering the 39 questions in a web-based app, an overview of the child's current health status is presented in a spider web chart. Children can then use the spider web chart to guide them in a dialogue on their health.

Finally, the MPH dialogue tool for children was presented to the children's council of the WCH (step 8). The rephrasing and meaning of dimensions and aspects was verified with the council. According to the children's council, all dimensions and aspects were clearly formulated and they understood the meaning of these terms. The council was enthusiastic and felt the dialogue tool could help children sort out their thoughts on health and well-being and share this with their HCP.

DISCUSSION

Results in the context of previous literature

Most studies about children's views on health were performed in the 1970s, 1980s and 1990s. The central themes regarding children's views on health that were identified in our study match the results from these early studies. Natapoff concluded that 6–12 years old children view health as a positive attribute, which enables them to participate in desired activities.[8] Altman *et al* interviewed children from 8 to 14 years old about the concepts of

Table 4 Illustrative quotes on subthemes related to health

Subtheme	Quotes
Your lifestyle	‘Health is eating healthily, practicing sports, so a lot of exercise. And, well, not too much sugar.’ *Healthy girl, 12–15 year age group*. ‘… If you exercise, you also feel fit, so you have more energy. And then I think that you feel better about yourself.’ *Girl with muscular disease, 16–18 year age group*. ‘Yes, because if you don’t sleep long enough it is also bad for yourself and your health will also deteriorate if you do not sleep enough.’ *Healthy boy, 12–15 year age group*.
Physical complaints	‘That you don’t notice anything, that you don't think ‘oh, this is in my way’ or ‘this hurts’.’ *Boy with congenital heart disease, 12–15 year age group*. ‘For example, I have two illnesses and I never notice any of them, I never suffer from them.(…)And I don't feel unhealthy.’ *Girl with inflammatory bowel disease, 8–11 year age group*. ’I have Crohn’s disease, it’s chronic but right now I don’t experience any complaints, so I feel healthy.’ *Girl with inflammatory bowel disease, 16–18 year age group*.
How you look	‘You can also notice it by the temperature of that person, whether they seem a little white or something. Those kind of things.’ *Girl with functional abdominal pain, 12–15 year age group*. ‘You will be able to see it if someone has a broken arm… but as for me, you could not see it. That is to say, when I walk on the street, nobody could see: ‘Ah, they performed open heart surgery on you.’ *Boy with congenital heart disease, 12–15 year age group*.
Family and friends	‘And if you don't have friends then you can't play with anyone or anything, then you're bored at home all the time and you don't feel so good because you don't have friends.’ *Healthy boy, 8–11 year age group* ‘When you are in a good place with friends and things like that, where you just have good friends, that you can rely on people. At home too, that your parents are either together or separated, but in a good way.(…)That you can share it if you don't feel well and that you just know that there are people who are there for you.’ *Girl with inflammatory bowel disease, 16–18 year age group*. ‘Because you can express your feelings. And that you are not completely alone.’ *Boy with autism spectrum disorder, 12–15 year age group*. ‘If you are worrying about something and you tell someone about it, a trustworthy person, it will cause a sense of relief. You will be able to talk about it and it will be solved, the thing you were worrying about. You’ll feel relieved and feel much better and in that way you will actually automatically become healthier.’ *Healthy boy, 12–15 year age group*.
Having a positive attitude	‘I think the most important thing is your attitude in life(…)if you have a positive attitude towards life, it is easier to be healthy, I think.(…)I think it makes you happier if you look at it that way. If you only think: “I still want to do this and do that and that is no longer possible”, that it will make you a bit more gloomy.’ *Girl with muscular disease, 16–18 year age group*. ‘By motivating yourself, telling yourself that you are just very strong and can get through it. So what can I do? And then just mention the positive things or something. And yes I think that motivates you.’ *Healthy girl, 12–15 year age group*.
Being yourself	‘Health is if you are who you are. And if you do what you truly like. Then you’ll feel good and you’ll probably have good friends who accept who you are.’ *Healthy girl, 12–15 year age group*. ‘… If you pretend to be different from who you are, then secretly you are not very healthy on the inside, I think, because you will not be yourself.’ *Boy with muscular disease, 12–15 year age group*.
Belonging	‘… That you can participate and that you don't feel left out(…)that you are one group and not you the one in the wheelchair.’ *Healthy girl, 12–15 year age group*. ‘Yes, often you want to participate in what your friends do. And when you can't do all that, they may think: well, you can't join us anyway, so go away.’ *Girl with inflammatory bowel disease, 16–18 year age group*.

health and illness. These children also defined health as feeling good or being in good physical or mental health.[13] Logsdon examined preschool children’s conception of health as a positive feeling and the ability to participate in desired activities.[11] More recently, a study from Almqvist *et al* showed that children largely related health to being engaged in and able to perform wanted activities and participate in a supportive everyday context.[14] However, none of these studies addressed the views and perspectives of children with a chronic condition. However, a more recent study did specifically assess the perspective of children with chronic conditions on participation.[10] It was discovered that these children considered participation as more than merely engaging in activities and identified other key elements to full participation, such as having a sense of belonging, the ability to socially

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Table 5 Overview of results of the 9-step process

	Step 1	Step 2	Steps 3, 4 and 5	Steps 6 and 7
Dimension (original terminology)	**Belongs to health**	**Reasons**	**Suggested modifications**	**Modifications made after consulting with the multidisciplinary research team**
My body (Bodily functions)	Yes	Supporting quote: 'Well, it is like, you feel whether you are healthy or not and you exercise and that is all related to your body. And your food is also your body, in fact everything is your body. Everything you do, you do with your body.' *Healthy girl, 8–11 year age group*.	Adding 'physical appearance' as an aspect, because this was frequently mentioned in the first part of the interviews.	▶ 'Physical appearance' was added as an aspect. ▶ A new aspect, 'having energy', was defined and added as this was also frequently mentioned in the first part of the interviews. ▶ Adding 'sexuality' as an aspect was considered and discussed. However, it was never spontaneously mentioned by children during the interviews. Therefore, it was decided not to include this as an aspect.
My feelings and thoughts (Mental well-being)	Yes	Children discussed how thinking about your health and talking about your health are important aspects of health itself.	The aspect 'coping with stress and disappointment' (also frequently mentioned during the first part of the interviews) was originally suggested as an aspect for the 'Feeling good about yourself' dimension. However, it seemed that other aspects were more fitting for that dimension (step 3). Therefore, it was suggested to include this aspect in the 'My feelings and thoughts' dimension instead.	▶ 'Coping with stress and disappointment' was added as an aspect. ▶ Marking the aspects 'feeling positive about life', 'knowing your limitations' and coping with disappointments and bad situations' as applicable to children aged 12 and older.
Who am I and what do I want (Meaningfulness)	No	Difficult to understand for the younger children (aged 8–11), as they related 'Who am I' to their name and 'What do I want' to future professions.	After clarifying the meaning of this dimension by presenting the corresponding aspects (eg, looking at the future), most children felt that the aspect 'dreams and goals for the future' was the most important. Therefore, the researcher proposed to rename the dimension to 'Now and in the future'.	▶ Dimension rephrased to 'Now and in the future'. ▶ Marking the aspects '*making choices*', '*self-knowledge*' and '*role models*' as applicable to children aged 12 and older.

Continued

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Table 5 Continued

Dimension (original terminology)	Step 1 Belongs to health	Step 2 Reasons	Steps 3, 4 and 5 Suggested modifications	Steps 6 and 7 Modifications made after consulting with the multidisciplinary research team
My happiness and enjoyment/ Feeling good (Quality of life)	Yes	'Feeling good about yourself' was essential according to children, as the results of the first part of the interviews show. In addition, during step 2, the majority of children in both age groups agreed that 'Feeling good about yourself' belongs to their concept of health and they emphasised the importance of enjoyment, stating it is unhealthy not to enjoy life.	Leaving out 'My happiness and enjoyment' as part of the dimension title, as both the younger and the older children had difficulty understanding this phrase. Receiving support and being understood by your environment were frequently mentioned during the first part of the interviews. Therefore, two new aspects for this dimension were suggested: 'receiving support from others' and 'experiencing a pleasant environment'.	▸ Dimension rephrased to 'Feeling good in your own skin'. ▸ 'Receiving support from others' and 'experiencing a pleasant environment' were added as aspects. ▸ Marking the aspects 'a pleasant environment', 'taking pleasure in doing things' and 'receiving support and understanding from others' as applicable to children aged 12 and older.
Participation (Participation)	Yes	Supporting quote: 'Yes if you are healthy then, you are always able to participate anyway, you can, maybe you won't, but it is possible. You can decide that for yourself. But if you are unhealthy then you are not always able to participate, maybe you want to, but sometimes it's not possible.' *Boy with muscular disease, 12–15 year age group*.	'Wanting to participate' and 'doing what you want' were frequently mentioned by the children and it was therefore suggested they be added as one aspect (namely: 'self-determination') for this dimension.	▸ 'Self-determination' was added as an aspect. ▸ A new aspect 'personal contribution' was defined and added, to connect to the original focus of this dimension. ▸ Marking the aspects 'self-determination', 'keeping up with others' and 'personal contribution' as applicable to children aged 12 and older.
What can I do and what do I do? (Daily functioning)	No	Was interpreted literally and, therefore, usually not considered connected to health. Terminology caused confusion with regards to 'participation', while this dimension is intended to focus on daily functioning.	To clarify the meaning of this dimension and prevent confusion by its duality, it was suggested to rephrase it to 'Daily life', a phrase that seemed to properly cover all aspects.	▸ Dimension rephrased to 'Daily life'. ▸ Marking the aspect 'smoking, alcohol and drugs use' as applicable to children aged 12 and older.

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Table 6 Dimensions and themes of the MPH dialogue tool for children

MPH dialogue tool for children					
Your body	Your feelings and thoughts	Now and in the future	Feeling good about yourself	Participation	Daily life
► Feeling good ► Having energy ► Eating healthily ► Sleeping well ► Sports and exercise ► Physical complaints ► Pain ► Physical appearance	► Managing your feelings ► Accepting yourself ► Fitting in ► Feeling positive about life* ► Knowing your limitations* ► Coping with adversity*	► Looking at the future ► Culture and religion ► Having goals and dreams ► Making choices* ► Self-knowledge* ► Role models*	► Enjoyment ► Happiness ► Cheerfulness ► A pleasant environment* ► Taking pleasure in doing things* ► Receiving support and understanding from others*	► Friends ► Belonging ► Bullying ► Self-determination* ► Keeping up with others* ► Personal contribution*	► Going to school ► Being yourself ► Leisure time ► Looking after yourself ► Feeling normal ► Limitations ► Smoking, alcohol and drugs use*

*Aspects marked with an asterisk are more applicable to the older children (≥ 12 years)
MPH, My Positive Health.

interact and the capacity to keep up with peers. Some of these aspects were also identified in our study with both healthy children and children with a chronic condition, such as the sense of belonging and the importance of social interactions with friends and family. In addition, our study also showed children focused on health practices as part of health, which were categorised as 'lifestyle'. Children mentioned good nutrition and sports as strategies to achieve health. Previous studies on children's perception of health also concluded food and exercise are important subjects to children.[8 9 13 15] More recently, Piko and Bak interviewed 128 primary school students to describe their views on health, illness, health promotion and disease prevention, and found that these children expressed both a biomedical and holistic concept of health.[16] Within this holistic health concept, children related health to aspects similar to the ones we identified, such as happiness and joy.

As most research on this topic was carried out 30–40 years ago, we considered it important to re-examine children's current views on health, prior to developing the MPH dialogue tool for children to ensure integration of children's current views into this new concept of heath. Furthermore, for meaningful implementation in paediatric practice, it is essential to involve children in this development process.

Strengths and limitations

Recent research on children's views on health focuses on certain aspects of health, such as participation and health promotion.[10 16] Therefore, one of the strengths of this study and the dialogue tool, is its focus on health as a multidimensional concept. This matches children's views on health and supports HCPs in providing care and treatment that is aligned with the needs of their young patients/clients. In addition, currently, only few interventions exist that facilitate a shift of focus to children's views and perspectives in communication with HCPs. Another strength of the MPH dialogue tool for children is its suitability for children (8–18 years) in all settings, as we included not only healthy children but also children with chronic somatic and psychiatric conditions. This is especially important since interventions are often organised in separate disease-specific trajectories, while in practice, there is considerable comorbidity.[17] Conversation about well-being, self-management and participation is equally important for children with somatic or psychiatric disorders. Discussing themes such as bodily functions with children with psychiatric disorders, on the one hand, and mental well-being with children with somatic disorders, on the other, becomes more natural with the use of this tool. In addition, the dialogue tool can also be used in other settings, such as in schools, to educate children on health, to help them discover and discuss what is important to them regarding their health and how they can influence their own health.

An important limitation of the study is the exclusion of children with an intellectual disability, as many children with chronic conditions have neurodevelopmental issues, too. We believe that, with proper substantiation, the dialogue tool may be developed further, to cater to the specific needs of these children. However, this was beyond the scope of the current study.

The MPH dialogue tool for children was launched in September 2017, when it was implemented in a digital environment (in Dutch: kind.MijnPositieveGezondheid.nl) and is available as a paper version (online supplemental appendix D). The MPH dialogue tool is not developed to measure the general health status of children. We specifically recommend its use as a dialogue tool, to help children share what is most important to them. However, if desired, HCPs may use the tool to monitor and discuss changes in a child's perception of their personal health, over time. Future implementation research should focus on correct use as well as effectiveness of the MPH dialogue tool for children.

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CONCLUSION

In conclusion, the MPH dialogue tool was designed with and for children from 8 to 18 years of age, with and without a chronic condition, to help children share what is important to their health and improve their sense of control over decisions and actions that affect their health. With this dialogue tool, we hope to support HCPs in providing care and treatment that caters to the specific needs of their young patients.

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